ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Interconnection and Resale Obligations	)	CC Docket No. 94-54
Pertaining to	)	
Commercial Mobile Radio Services	)	

COMMENTS

Respectfully submitted,

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SUMMARY

Direct interconnection between CMRS carriers will likely develop as traffic volumes build and a market-based economic incentive makes direct interconnection attractive. The Commission should generally trust market incentives to encourage the industry to implement direct interconnection between CMRS providers. However, in those instances where an incumbent wireline LEC is under common ownership with a CMRS provider, the market power of the incumbent wireline LEC could be unreasonably used to deny direct CMRS to CMRS interconnection with the incumbent LEC affiliate and, instead, force all traffic through the incumbent LEC. The owner of an incumbent wireline LEC and a CMRS provider has an incentive to force interconnection through its incumbent wireline LEC affiliate so that total firm revenue may be maximized. Such an outcome, where interconnection costs would be higher if CMRS to CMRS interconnection were denied, would be an abuse of market power by the incumbent wireline LEC and should be closely scrutinized by the Commission.

A CMRS to CMRS direct interconnection mandate may not be issued by the Commission until a Section 201 proceeding has taken place. The Sprint Venture does not believe that a Section 201 proceeding is appropriate at this time and that CMRS to CMRS direct interconnection mandates are not appropriate as long as the market is functioning properly.

The Commission should continue the precedent of resale established for cellular providers. The Sprint Venture believes that resale of CMRS services offered to the public should generally be allowed. However, in areas where a CMRS provider is spectrum-licensed, the mandatory availability of CMRS service for resale by a spectrum-licensed competitor should be restricted to the 10 year build out period for the license. This restriction on mandatory resale availability for

spectrum-licensed providers is a proper public policy action designed to create an incentive to build out and fully utilize the licensed spectrum. Build out and spectrum utilization is in the public interest and will lead to a more competitive market in the long term.

Any proposal to require a CMRS provider to unbundle either its services or its network should be soundly rejected. The severe remedy of unbundling and mandatory access to unbundled services or network functions is justified only where an essential facility is withheld from competitors. As essential facility is one which must be made available to others in order for competition to develop. Because multiple CMRS facilities-based competitors will be present in the market in the form of cellular carriers and PCS providers, an essential facility argument is not available. CMRS providers have no essential facilities because there are multiple facilities owned by multiple operators. Thus, the extreme remedy of unbundling services or networks and mandatory access to that unbundled functionality is not justified or reasonable in the CMRS context.

Further, the PCS licensees have paid for their spectrum at open auction. Those bidding for this spectrum planned an integrated PCS service where both the switching and radio services were provided by the spectrum licensee. The value of the spectrum was based on the ability to offer the total PCS service. A proposal to disaggregate the CMRS service or network functions takes the exclusive rights to the spectrum from the licensee and gives rights to a party that has not paid for that spectrum. Mandatory unbundling diminishes the value of the spectrum to the licensee and is unjustified, unnecessary and inappropriate.

Roaming service is a variation of CMRS resale. The home area CMRS service provider obtains rights from a CMRS carrier outside it home operating area so that the customers of the

home carrier may have service outside the home operating area. The home carrier is billed by the CMRS carrier providing roaming service and then bills the end user. This is a resale transaction. As in resale generally, roaming is a common carrier service that should be readily available to those that resell CMRS services. Further, as in cellular resale, the obligation to provide mandatory roaming to competitors in the licensed area should terminate after the 10 year build out requirement has expired.

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COMMENTS

The Sprint Telecommunications Venture[1] ("the Sprint Venture") hereby respectfully provides its comments on the Second Notice of Proposed Rule Making in the above referenced proceeding.[2] The Sprint Venture was not formed at the time comments were submitted in the initial Rule Making addressing Commercial Mobile Radio Service ("CMRS") to CMRS interconnection and resale issues. Thus, these comments constitute the Sprint Venture's initial filing on the issues presented by either the First or the Second NPRM.

I. INTRODUCTION

In its Second NPRM, the Commission concludes that at present it need not "propose or adopt rules of general applicability requiring direct interconnection arrangements between CMRS providers."[3] However, recognizing the need "to begin to articulate some broad policy guidelines" the Commission has sought comment on "guidelines intended to pilot the implementation of the

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[1] The wireless component of the Sprint Telecommunications Venture is WirelessCo, L.P. WirelessCo, L.P. is a limited partnership organized under Delaware law. The ultimate owners of the Sprint Telecommunications Venture and WirelessCo, L.P., through intermediary organizations, are Sprint Corporation, Tele-Communications, Inc., Cox Enterprises, Inc., and Comcast Corporation. WirelessCo, L.P. is the auction winner for multiple MTA broadband PCS licenses.

[2] In the Matter of Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services, Second Notice of Proposed Rule Making, CC Docket No. 94-54 released April 20, 1995 (FCC 95-149) ("Second NPRM").

[3] *Id.* at ¶ 2.

basic common carrier obligations of CMRS providers under Title II of the Communications Act."[4] The Commission has also continued its inquiry into interconnection necessary to facilitate roaming and tentatively concluded that resale obligations are in the public interest.[5]

II. CMRS TO CMRS INTERCONNECTION

A. MARKET FORCES SHOULD GENERALLY CONTROL CMRS TO CMRS INTERCONNECTION REQUESTS

The Communications Act, as amended,[6] states that the Commission shall direct a common carrier, upon reasonable request of a CMRS service provider, to establish physical interconnection with the CMRS provider, subject to the requirements of Section 201 of the Act. Section 201 of the Communications Act requires the Commission to hold hearings and make a finding that physical interconnection is in the public interest before requiring physical interconnection. The Sprint Venture agrees that a public interest finding, after both a reasonable request and a Commission hearing, is required before CMRS to CMRS interconnection may be mandated.[7]

The Commission noted that as "a general matter, we believe that the interconnectivity of mobile communications networks promotes the public interest because it enhances access to all networks" and is a step toward a "ubiquitous 'network of networks'."[8] The Sprint Venture

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[4] *Id.*

[5] *Id.* at ¶¶ 2-3.

[6] The Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 3122 (1993) amended the Communications Act to provide that upon "reasonable request of any person providing commercial mobile service, the Commission shall order a common carrier to establish physical connections" subject to the requirements of "section 201 of this Act."

[7] The Commission also has authority to mandate reasonable CMRS to LEC interconnection. Through previous proceedings this obligation has been established. *See Policy Statement,* 59 Rad. Reg.2d 81-82; *Cellular* Order, 86 FCC 2d at 495-96.However, the Commission must continue to diligently monitor the process to ensure that LECs are providing reasonable interconnection to all CMRS providers and that they do not abuse their market power in this regard.

[8] Second NPRM at ¶ 28.

agrees with the Commission's initial analysis that present market conditions do not "indicate that it is necessary to impose a general [CMRS to CMRS] interstate interconnection obligation at this time."[9] Further, the Commission is correct in its observation that "all CMRS end users can currently interconnect with users of any other network through the LEC landline network."[10] The ability to interconnect all common carriers, including CMRS providers, through the landline network creates in large part the "network of networks" envisioned by the Commission.

In the cellular context, the CMRS industry has worked through private discussions and transactions to provide appropriate physical interconnection between cellular carriers when such arrangements have been efficient, cost effective and have enhanced customer service. It is the Sprint Venture's expectation that the broader CMRS industry will continue this process. However, should this process fail, the Commission may then, pursuant to Section 201, determine whether the public interest requires direct interconnection when a party seeking direct interconnection appropriately petitions the Commission

B. LECS WITH CMRS AFFILIATES OPERATING IN OVERLAPPING AREAS DESERVE SPECIAL ATTENTION

The Commission is concerned that a potential "might exist for CMRS providers to raise their rivals' costs by denying direct interconnection, or increasing the price of direct interconnection to the price charged by the LEC for indirect interconnection."[11] The Sprint Venture agrees that this is a valid concern. The Sprint Venture asserts that the only CMRS providers likely to have market power in regard to direct interconnection are those associated with incumbent LECs operating in the same area.

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[9] *Id.* at ¶ 31.
[10] *Id.* at ¶ 30.
[11] *Id.* at ¶ 32.

Incumbent LECs have significant market power in the areas in which they operate because of the bottleneck nature of their local loops, switching and access plant. Most CMRS providers operating in the same area are interconnected through the LEC rather than through direct interconnection. As PCS providers enter the market now served primarily by cellular carriers, the amount of traffic between CMRS networks will likely increase. This increase in traffic may well provide a market incentive for direct connection between CMRS providers. The only group that may lack this incentive is the CMRS provider associated with the local LEC.

In the case of a LEC/CMRS affiliation, the ultimate owner will lack an incentive to allow its CMRS affiliate to directly interconnect with other CMRS providers. While direct interconnection may lead to lower costs to a CMRS affiliate, it could also result in lower revenues to the LEC that is providing the CMRS to CMRS indirect interconnection services. Thus, if the savings to the LEC-affiliated CMRS carrier are less than the lost revenues of the LEC, the owner of both businesses will have an incentive to influence its affiliated CMRS provider to deny direct interconnection so that it may maximize total corporate revenues by requiring the use of its affiliated LEC's facilities for indirect interconnection services.

Not only would this scenario maximize the LEC's (and its owner's) total revenues, it would place the non-affiliated CMRS carriers at a financial disadvantage. While both the affiliated and non-affiliated CMRS carriers would reflect the higher costs of indirect LEC interconnection as expenses, only the owner of the LEC affiliated CMRS provider would have maximized its revenues. The incumbent LEC could force higher costs on the non-affiliated CMRS providers, maximizing the incumbent LEC's profits, while not harming its own CMRS affiliate's position vis a vis the other CMRS providers.

One issue that has not been settled is which carriers receive compensation for terminating traffic of another carrier. In the past, the LEC has always received such payments but wireless carriers have routinely been denied compensation. The manner in which this issue is resolved affects the incentives incumbent wireline LECs have to abuse their market power. For example, if all local exchange carriers (both CMRS and wireline) that touch a terminating call are compensated for their services, a call from a customer of an independent CMRS provider may pass through both an incumbent wireline LEC and its affiliated CMRS provider to terminate. Both the incumbent wireline LEC and the CMRS provider might seek terminating service compensation. This could result in one payment to the owner of the incumbent wireline LEC and an additional payment to its CMRS affiliate. For calls terminating from the incumbent wireline LEC's CMRS affiliate to the independent CMRS provider, the incumbent wireline LEC's owner pays itself once and the terminating CMRS provider once. Thus, the owner of the incumbent wireline LEC and its CMRS affiliate, may use the market power of the incumbent wireline LEC to charge more than otherwise may be justifiable for terminating services through denial of direct interconnection between the CMRS providers.

The Sprint Venture asserts that if a CMRS carrier affiliated with a LEC operating in overlapping territory acts in this manner, that the owner of the LEC and its affiliated CMRS carrier are abusing their market power.

C INCUMBENT WIRELINE LECS HAVE AN INCENTIVE TO EXERT THEIR MARKET POWER WHEN INTERCONNECTING WITH CMRS PROVIDERS

While direct CMRS to CMRS interconnection may generally be expected to occur as industry participants make good economic choices, incumbent wireline LEC to CMRS direct interconnection will likely prove a larger problem. The Commission recognizes that the local

service offerings of both wireline LECs and CMRS providers are, to some extent, competing with one another. At this point in time, the incumbent wireline LEC is a near monopoly with dominant market power. CMRS providers, in comparison, serve approximately five percent[12] of the market and serve as the primary local exchange service provider for an even smaller customer group.

The Commission recognizes that over time CMRS providers may become a more competitive alternative to the dominant wireline LEC. Some LECs have a history of abusing their wireline local exchange bottleneck interconnection facilities and have been required to offer "equal access" to interexchange carriers because of this past abuse of their dominant position. Simply stated, some LECs attempted to maintain their monopoly through denial of reasonable interconnection to wireline local exchange bottleneck facilities. As competition develops in the wireline/wireless local exchange market, the incumbent LECs have an incentive to again abuse the market power that their dominant wireline local exchange provides. The Commission must make every effort to prevent abuse of this dominant market power.

D. WITH THE ENTRY OF PCS CARRIERS, THE CMRS MARKET IS UNLIKELY TO YIELD AN INDEPENDENT CARRIER WITH MARKET POWER

The Commission must thoughtfully develop its market power analysis of the CMRS market.[13] The Commission has tentatively employed the Justice Department's market power definition: "the ability profitably to maintain prices above competitive levels for a significant period of time" in its analysis of dominance.[14] The Commission observed that after the expected entry of multiple spectrum-licensed and facilities-based competitors in each license area in the

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[12] 1993 cellular penetration reported by PCIA.

[13] The Commission previously determined that the cellular duopoly has resulted in each cellular carrier being classified as "dominant."

[14] *Id.* at ¶ 36 and note 69.

future, that CMRS "will be provided on a competitive basis" and that this will lessen any "need for regulatory intervention."[15]

Any market power analysis of this nature is necessarily focused on consumers. Once multiple CMRS competitors with reasonably comparable service capabilities and reputations have entered the market, it is unlikely that any CMRS carrier, standing alone,[16] will have market power justifying a dominant carrier classification. Rather, a market power analysis is more properly trained on the activities of a dominant LEC and CMRS affiliate in overlapping markets.

The Commission tentatively concludes "that a market power analysis should be the basic analysis we conduct in determining whether to impose specific interconnection obligations." The Commission notes that past interconnection decisions have "primarily been addressed to local exchange carriers with significant market power." Finally, the Commission acknowledges it is heading into uncharted territory as it considers the need to impose interconnection obligations between CMRS carriers less likely to have market power in the future.[17]

The Sprint Venture asserts that the Commission's interconnection public policy should focus on two concerns. First, the basic, primary policy for interconnection should be that all common carriers that offer switched services should interconnect either directly or indirectly so that a "network of networks" develops and universal call termination is readily available. Second,

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[15] *Id.*

[16] In areas where a CMRS provider and an incumbent wireline LEC, under common ownership, provide service in overlapping areas, market power may continue to exist because of the market power influence of the incumbent wireline LEC being transferred to its CMRS affiliate. Accordingly, the Commission must use care in regulating CMRS carriers affiliated with incumbent wireline LECs. *See* Petition of WirelessCo, L.P. to Deny or to Condition License Grant, File No. 0006-CW-L-95 KNLF 209, May 12, 1995 and WirelessCo's Reply to Opposition to Petition to Deny or Condition License, June 7, 1995.

[17] *Id.* at ¶ 41.

for those bottleneck carriers with market power, protection against abuse of that market power is appropriate until such time as their market power is significantly diminished.

The Sprint Venture notes that even in the LEC context, where incumbent LEC market power has resulted in the development of wireline interconnection standards, that many LECs are not directly connected to either CMRS providers or interexchange carriers. Many small LECs are directly interconnected only with a larger LEC. The larger LEC then provides direct interconnection with the CMRS and interexchange carriers. This arrangement has proven to be efficient and acceptable throughout the industry. Further, this arrangement satisfies the primary goal of creating a "network of networks" and provides universal call termination.

Thus, the Commission should examine whether the primary goal of being part of the "network of networks" has been met and whether the common carrier providing switched services provides universal call termination. If both prongs of the inquiry are satisfied, including a determination that pricing is appropriate, the Commission need look no further unless a carrier with market power is abusing that power by refusing to provide reasonable interconnection. If the industry meets the primary "universal call termination" goal and no one complains about an abuse of market power related to interconnection arrangements, the Commission may let market forces control carrier interconnection activities.

E INDUSTRY FORA AND EQUIPMENT SUPPLIERS SHOULD RAPIDLY DEVELOP INTERCONNECTION STANDARDS

While the Sprint Venture does not believe that CMRS to CMRS direct interconnection need be mandated, except in the limited circumstances outlined above, the industry likely recognizes that such arrangements will be in CMRS provider's economic best interests. In order to provide the least cost interconnection, the industry should be encouraged to develop

interconnection standards. The Sprint Venture recommends that both the appropriate industry fora and the equipment and software suppliers to the industry begin the process of developing standards for direct CMRS to CMRS interconnection so that it may be rapidly and efficiently provided when it otherwise makes economic sense.

III. RESALE OF CMRS SERVICES

A. CMRS SERVICE SHOULD BE AVAILABLE FOR RESALE

The Commission defines resale "as an activity in which one entity subscribes to the communications services and facilities of another entity and then reoffers communications services to the public (with or without "adding value") for profit."[18] Roaming clearly fits this definition as does the more traditional arbitrage resale that takes place on bulk service offerings. In the view of the Sprint Venture, both forms of resale are appropriate and in the public interest.

The Sprint Venture sees no valid basis for differentiating between cellular and PCS resale services. Each is a valid common carrier service and each should be available for resale. Resale will benefit the public by providing both a more rapid roll out of competitive services by new PCS entrants and the market discipline that arbitrage resellers bring to the market.

The Sprint Venture supports a limited obligation for facilities-based CMRS providers that resell to other facility-based CMRS providers within the same area. In order to avoid any confusion concerning the definition of "facilities-based", the Sprint Venture proposes that the termination of resale rights only apply to CMRS providers that hold licensed spectrum within the area. The use of the term "licensed spectrum-based" rather than "facilities-based" will remove any doubt concerning the ability of a CMRS carrier to continue to resell in its licensed area after

[18] Second NPRM at ¶ 60.

the 10 year build out period even if it does not have facilities actually operating in an area. For example, an entire BTA could be left unbuilt and a carrier could still meet its MTA build out requirement. In this BTA, comprised of several MSAs/RSAs, no facilities of the PCS provider may be present. Is the PCS carrier facilities-based in this area under these circumstances? Alternatively, the facilities may be owned by a third party and leased by the PCS provider. If the facilities are not owned, is the carrier facilities-based? A "licensed spectrum-based" requirement removes this potential definitional argument

Further, the Sprint Venture agrees that PCS licensees should have an incentive to build out their systems. Thus, a sunset on the resale authority for systems that are "licensed spectrum-based" should apply. The Sprint Venture believes that a 10 year build out period is the appropriate period during which resale should be available to "licensed spectrum-based" PCS carriers.

B. CMRS CARRIERS SHOULD NOT BE REQUIRED TO UNBUNDLE THEIR SERVICE OFFERINGS OR NETWORKS

The Sprint Venture, as explained above, supports the creation of a "network of networks" and the availability of universal call termination capabilities. The decision of whether to implement interconnection via direct or indirect means may normally be left to the carriers. Only when a carrier has significant market power may the unusual step of mandating the form of interconnection and pricing levels for such interconnection be appropriate. Assuming the CMRS market has multiple service providers competing for customers, as the Commission expects, no CMRS carrier (with the possible exception of those affiliated with dominant incumbent LECs) will possess market power in the CMRS market.

Because the majority of CMRS carriers will not possess market power, a forced unbundling of the non-dominant competitive carrier's CMRS network is unjustified, unreasonable, and inappropriate. Forced access to the facilities of another, on a disaggregated basis, is justified only when the facilities are "essential" and competition cannot occur without access to those facilities. When multiple CMRS networks exist, no carrier providing solely CMRS services possesses "essential" facilities. Indeed, with multiple CMRS facilities owned by various parties, actual competition is expected to be vigorous. Thus, the factual predicate underlying forced access and unbundling is plainly absent in the CMRS context.

Further, prospective PCS providers have already committeed to pay $7 billion for broadband PCS spectrum through the auction process. Once licensed, these service providers must expend additional capital to build out their service areas installing MTSOs, cell sites, data bases and distribution facilities, all in contemplation of offering retail service to end users.

In marked contrast to those investors paying substantial sums for PCS spectrum, some parties have asked the Commission to force CMRS providers to unbundle their networks and allow resellers without radio facilities to interconnect with the spectrum license-based carrier in a manner that uses only a portion of that carrier's facilities. In effect, these resellers want the rights of a spectrum licensee but at the same time avoid payment for the spectrum they will use. Unless the spectrum license-based carrier voluntarily offers such disaggregated network services to the public, such disaggregation is an unreasonable taking of its property to support resellers that essentially obtain spectrum at no cost. The Sprint Venture strongly believes that the new economics of spectrum use created by the auction coupled with the expected multiple carrier

participation in the CMRS market dramatically changes the unbundling equation so that mandatory CMRS unbundling is insupportable.

Additionally, the existing CMRS infrastructure does not support network unbundling. Unbundling would require wholesale changes to existing plant, development of new technology and additional expense by spectrum license-based carriers to facilitate unbundling of their networks. This additional cost is unjustified in a market that is expected to include vigorous competition among as many as nine facilities-based CMRS providers.[19]

Thus, the proposal by some resellers that spectrum license-based CMRS providers be forced to unbundle their networks should be rejected as unnecessary and unsupportable in a competitive market, unreasonable, not currently technically feasible and an inappropriate taking of the economic rights in the licensed spectrum paid for at auction by the licensee. The unbundling proposal is wholly unjustified and unsupportable.

IV. ROAMING

A. TECHNICAL AND CONTRACTUAL ASPECTS OF CELLULAR ROAMING ARRANGEMENTS

Cellular roaming, stripped to the barest essentials, is the ability of a customer of one cellular carrier to leave the licensed coverage area of the "home" system and retain the ability to send and receive calls over the system of another cellular carrier when visiting the service area of the other carrier. Roaming arrangements are negotiated between the carriers and usually result in an arrangement with only one of the two carriers in each licensed area being the preferred roaming service provider for customers of the home carrier. Over time, nearly all cellular carriers

[19] Two cellular, six PCS and at least one using aggregation of other CMRS spectrum to provide PCS-like service could operate in a single market under FCC rules.

have negotiated resale roaming arrangement to allow their home customers access to service when visiting foreign service areas.

From a technical standpoint, basic roaming requires a compatible cellular handset capable of accessing the radio frequency of the carrier providing roaming service. Cellular CPE usually provides access to both the A and B cellular bands. Through programming of the CPE, the handset will first look for the home carrier when in the home carrier's service area. When roaming, the set may be preprogrammed to look first to either the A or B band, then if it does not find a confirmation that roaming is available on that band, switch to the other band.

When cellular CPE is turned on it sends its identification information to the MTSO of the carrier providing service When operating outside its home system, the roaming service provider checks its visitor location register to determine whether service should be provided to this CPE. If the database feeding the visitor location register provides validation of both a roaming relationship with the home carrier and the authorized calling status of the CPE, visitor calling rights are granted. This is known as "pre-call validation" and generally occurs before a roaming call attempt is made. Once validation has been received, calls are processed, billing data is recorded and the billing data is sent to a clearinghouse for processing.

A cellular company providing roaming service does not bill the end user directly for that service. Instead, the billing clearinghouse processes the call detail records submitted by each carrier. The home messages are separated from the roaming messages. The roaming messages are sorted by home carrier and the home carrier is billed for these messages at the agreed upon rates. The home carrier then bills the end user for any roaming messages. Typically, such end user charges may include a per day roaming surcharge which may vary depending on which

roaming carrier was used, a roaming air time charge and may include a mark-up above the underlying cost of roaming service charged the home carrier by the roaming service provider. In effect, cellular roaming rights are not directly conferred upon end users, but rather negotiated between CRMS carriers that allow their customers to roam on foreign systems pursuant to those rights.

In order to provide basic roaming service, access to call validation data, a billing clearinghouse and compatible CPE is needed. This process requires access to a common signaling system and database but does not require direct interconnection between the systems. However, in a more complex version of roaming, direct interconnection is required. This complex version of roaming involves the transfer of calls in progress when, typically, a person traveling in an automobile leaves one service area and enters another. In order to continue this call, the two CMRS providers must have trunks between their MTSOs that will allow transfer of this call in progress. If these trunks do not exist, the call will terminate and must be reoriginated on the second system.

The transfer of a call in progress between CMRS systems is technically difficult and resource intensive. For example, the carriers participating in home to roaming area call transfer must establish trunk groups between their switches. Further, they must map the boundaries of their cells and exchange this data with the cooperating carrier so that the interconnected system will know when to execute a transfer. The initial establishment of such a relationship takes months of work. Both carriers must constantly update each other on changes to their radio systems and additions of cells The ongoing work required is a significant management and technical challenge.

Agreements to interconnect cellular systems for call in progress transfer, like those for basic roaming, are negotiated between the parties. Currently, a large majority of cellular carriers participate in at least a basic roaming relationship with many cellular carriers. However, the Sprint Venture believes that only about half of the carriers participate in the more complex transfer of calls in progress.

B. ALTERNATIVES TO THE CURRENT ROAMING STRUCTURE

Roaming is administered as a contractual resale relationship between carriers that choose to cooperate with one another when they view such a relationship to be in their best interests. Typically, such carriers view the increase in customer satisfaction with the services being offered as the most important factor in establishing these relationships. Further, customers increasingly expect a larger effective cellular service area. This demand is met by cellular carriers through the establishment of roaming arrangements.

The Commission has generally adopted a policy that supports resale of commercially available common carrier offerings.

The Sprint Venture views the provision of cellular and PCS roaming service as a CMRS common carriage service. Roaming services are "for profit"[20] offered to a class of users "so as to be effectively available to a substantial portion of the public,"[21] and are appropriately categorized as CMRS.[22] If a CMRS carrier has voluntarily offered roaming service, it should make that roaming available for resale to all similarly situated carriers under reasonable terms and

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[20] *See* In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Second Report and Order, Released March 17, 1994 (ACC 94-31) at ¶ 43.

[21] *Id.*, at ¶ 66.

[22] *Id.* at ¶ 102 and ¶ 121.

conditions.[23] A voluntary arrangement to open a common carrier service to one should require the offering of such common carrier services to all.

Thus, the Sprint Venture strongly supports open access to roaming arrangements between carriers. This open access should be enforced by the Commission as a common carrier obligation. Denial of roaming rights to any CMRS carrier after roaming rights have been established with any CMRS carrier should be prohibited.

The Sprint Venture recognizes that the terms, prices and conditions of roaming cannot be identical among all CMRS carriers. The industry has developed in such a way that one cellular carrier may charge up to approximately $3.00 per day and $1.00 per minute as roaming fees. Another carrier may charge no per day charges, and a significantly smaller minute-based usage fee. Typically, the relationship between two carriers will be reciprocal, each mirroring identical charges when dealing with the other. However, each will likely also have arrangements with other carriers for roaming in other markets. These arrangements may differ from those with the first carrier. Thus, the prices, terms and conditions of roaming are not uniform across all CMRS carriers.

The Sprint Venture does not believe that roaming arrangements must be uniform. However, it does believe that such arrangements between carriers operating under different brands must be non-discriminatory. Thus, once a roaming arrangement has been established with

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[23] The Sprint Venture recognizes that affiliations to create a broader brand recognition may be created in the CMRS market. To the extent that CMRS carriers affiliate with one another for branding and service purposes, "roaming" by these affiliates may appropriately be offered as part of a greater agreement whose terms are not otherwise generally available to other parties. However, if roaming is available to affiliates, then other carriers should have the ability to adopt reciprocal roaming arrangements now available to other unaffiliated third parties or to negotiate in good faith to create a reasonable non-branded roaming agreement.

a CMRS provider operating under a competing brand, another CMRS carrier should be entitled to receive roaming rights under the same price, terms and conditions if it likewise offers to provide roaming service to the other carrier under reciprocal prices, terms and conditions. This would preserve the reciprocal nature of most current roaming agreements, avoid unreasonable discrimination, and allow the industry to continue to negotiate roaming agreements that will then be open to similarly situated parties that elect a reciprocal arrangement.[24]

The Sprint Venture believes that both roaming and resale arrangements will promote the rapid introduction of competing CMRS services. However, in the cellular context, the Commission placed a time limit on the obligation one cellular carrier was required to allow resale to a facilities-based carrier operating within its license area [25] The Commission justified the origination of this resale obligation on the desire to facilitate competition in the cellular market by encouraging rapid market entry by the competitive carrier. Further, the Commission imposed a term limit on the resale obligation in order to incent a facilities-based carrier to build out its system, to promote more robust competition and fully utilize the scarce spectrum resource.

These same considerations appear to apply in the required roaming context. A facilities-based carrier operating in the same licensed area should receive roaming support for the 10 year

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[24] In the case of a one-way roaming arrangement or an imbalance in the number of markets in which roaming rights would be granted, so that the transaction is not truly reciprocal, roaming should be available at a negotiated price or at the highest rate available to any third party, thus recognizing the one-way value of the transaction for those markets where an imbalance in reciprocity occurs.

[25] *See* Petitions for Rule Making Concerning Proposed Changes to the Commission's Cellular Resale Policies, Notice of Proposed Rule Making and Order, CC Docket No. 91-22, 6 FCC Rcd 1719, 1724 (1991) (*Cellular Resale NPRM and Order*); Petitions for Rule Making Concerning Proposed Changes to the commission's Cellular Resale Policies, Report and Order, CC Docket No. 91-22, 7 FCC Rcd 4006, 4008 (1992) (*Cellular Resale Order), aff'd sub nom* Cellnet Communications v. FCC, 965 F.2d 1106 (D.C. Cir 1992)

build out term of its PCS license. This would facilitate the rapid development of competition while providing an incentive to the new PCS entrant to build out its system and utilize its spectrum resource.

In this context, the Sprint Venture does not believe that roaming arrangements provided to facilities-based carriers operating in the license area need to include transfer of in-progress calls. The fact that the network of the new entrant will be rapidly changing as build out and growth occurs will make the coordination of cell site mapping and switch reprogramming overly difficult and expensive. Neither end user customers nor new PCS entrants will be seriously disadvantaged when calls terminate when to customers travel out of the home service area and need to be reoriginated when roaming into the area served by another carrier.

The Sprint Venture asserts the Commission should apply standard common carrier obligations upon the providers of roaming service. In this context, if roaming service is available to one CMRS provider, it must be available to all that request it. This will assist in development of the "network of networks" the Commission anticipates and provide for development of a wireless system with ubiquitous availability characteristics. Both of these goals are clearly in the public interest and within the power of the Commission to control as it exercises its authority over CMRS common carriers.

C DIVERSE TECHNOLOGIES PRESENT ROAMING PROBLEMS

Cellular roaming is uniformly provided using AMPS capable CPE and standards following the IS 41 format. Several billing clearinghouses offer IS 41 format bill processing services. The use of AMPS as a standard further simplifies the interface arrangements between end users and roaming service providers.

The broader CMRS roaming market is likely to be much more complex than the current cellular market. First, several PCS providers have tentatively announced their intention to adopt GSM as their standard. Second, many hardware companies are offering CDMA technology. Third, cellular and PCS operate on different radio spectrum.

These facts give rise to several problems that must be solved to allow ubiquitous roaming. In order to roam from an AMPS-based system utilizing IS 41 standards to a CDMA-based system in the same bandwidth will require the presence of a dual mode handset capable of both CDMA and AMPS format. To roam on a PCS carrier's system under the same circumstances will require a frequency agile handset capable of operating in both radio bands. Roaming to or from GSM systems will add the complexity of developing an interface between the GSM standard and the IS 41 standard. Further, a GSM billing clearinghouse must be developed to handle billing of roaming messages.

The Sprint Venture believes that the industry is capable of meeting these technological challenges. In the case of a carrier with a different echnology from the carrier from which roaming services are desired, the carrier requesting roaming arrangements should fund any system upgrade necessary to facilitate roaming between the carriers. Logically, in the case of a reciprocal arrangement, sharing of the expense will be reasonable.

The Sprint Venture believes that market demands will incent hardware and software vendors to make this equipment and software rapidly vailable. With Commission enforced common carrier status for roaming arrangements, deployment of these technologies should also occur rapidly.

D SENSITIVE CARRIER INFORMATION MUST BE PROTECTED AND NOT USED FOR COMPETITIVE MARKETING PURPOSES

Roaming, as described above, is typically billed through a clearinghouse. As a roaming provider validates the rights of a particular piece of CPE to place a roaming call, the home database is queried for validation. Between the information transmitted from the CPE to the roaming carrier and the information from the home carrier, enough information exists to identify the home carrier responsible for a specific roaming call and the end user the home carrier will ultimately bill.

The signaling systems that carriers are using are growing more robust and carry more customer specific information than in the past. As more information passes between carriers, the opportunity to misuse this information grows. The Sprint Venture is gravely concerned that roaming carriers might gather end user specific information in their capacity as a roaming service supplier to the home carrier and use that information to market services against the home carrier. This should properly be viewed as an abuse of information passed between carriers for billing purposes. Strict prohibitions on the use of this billing information for purposes other than billing should be adopted and enforced.

V. NUMBER PORTABILITY

The Commission noted that "number transferability would aid the resale market."[26] The Sprint Venture supports the adoption of a number transferability plan where a reseller could order

[26] *Id.* at ¶ 94.